Listing of Claims

1. (Previously presented) A distance measuring system for measuring distance by receiving a reflection light beam from an object to be measured, comprising a control arithmetic unit, a storage unit, a light emitting unit for emitting a measuring light beam, a photodetection unit for receiving said reflection light beam from said object to be measured and for issuing a signal based on a photodetection amount of said reflection light beam, a light amount adjuster for adjusting an amount of light entering said photodetection unit, a mode changing switch, and a display unit for displaying the result of a calculation of said arithmetic unit, wherein said mode changing switch selects whether said object to be measured is a prism or a natural object, said storage unit prestores a photodetection amount of a reflection light beam from the prism according to the distance and a photodetection amount of a reflection light beam from the natural object according to the distance, said light amount adjuster adjusts the photodetection amount of said reflection light beam received by said photodetection unit at an approximately constant amount and obtains an amount of the reflection light beam based on the result of the adjustment, said control arithmetic unit compares the obtained amount of the reflection light beam and the photodetection amount of said reflection light beam from said prism or said natural object that is prestored in said storage unit, and judges whether said object to be measured is the selected object to be measured based on the result of the comparison, and said display unit displays the result of said judgment by said control arithmetic unit.

2. (Previously presented) A distance measuring system according to claim 1, wherein said light amount adjuster comprises a density filter for adjusting said photodetection amount of said reflection light beam from said object to be measured, said storage unit prestores an adjusting position of said density filter according to the distance to the prism and to the natural object, and said object to be measured is judged based on the adjusting position of said density filter.

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3. (Canceled)

4. (Currently Amended) A distance measuring system according to claim [[3]] 9, wherein said reference data relating to the reflection of said object to be measured contains change of said photodetection amount due to weather conditions as a tolerance value.

5. (Canceled)

6. (Currently Amended) A distance measuring system according to claim [[5]] 10, wherein there are provided at least a prism measurement mode and a non-prism measurement mode, and when said prism mode is selected, said distance is displayed on said display unit only when said object to be measured is judged as a prism, and a warning that collimation in not performed is displayed on said display unit when said object to be measured is not judged as a prism.

7. (Currently Amended) A distance measuring system according to claim [[5]] 10, wherein photodetection sensitivity can be automatically changed over according to said photodetection amount of said reflection light beam from said object to be measured, the light amount is adjusted by the light amount adjuster, it is judged whether said object to be measured is the selected object to be measured according to said photodetection amount, and the result of the judgment is displayed on said display unit.

8. (canceled)

9. (New) A distance measuring system according to claim 1, wherein data is obtained by associating the photodetection amount of said photodetection unit before the light amount adjustment with the measurement distance, and the data is stored as reference data for judging said object to be measured.
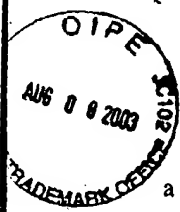
10. (New) A distance measuring system according to claim 1, wherein said mode changing switch selects a prism mode for using said prism as said object to be measured and a non-prism mode

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for using said natural object as said object to be measured based on the result of judgment of said display unit.

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Listing of Claims

1. (Previously presented) A distance measuring system for measuring distance by receiving a reflection light beam from an object to be measured, comprising a control arithmetic unit, a storage unit, a light emitting unit for emitting a measuring light beam, a photodetection unit for receiving said reflection light beam from said object to be measured and for issuing a signal based on a photodetection amount of said reflection light beam, a light amount adjuster for adjusting an amount of light entering said photodetection unit, a mode changing switch, and a display unit for displaying the result of a calculation of said arithmetic unit, wherein said mode changing switch selects whether said object to be measured is a prism or a natural object, said storage unit prestores a photodetection amount of a reflection light beam from the prism according to the distance and a photodetection amount of a reflection light beam from the natural object according to the distance, said light amount adjuster adjusts the photodetection amount of said reflection light beam received by said photodetection unit at an approximately constant amount and obtains an amount of the reflection light beam based on the result of the adjustment, said control arithmetic unit compares the obtained amount of the reflection light beam and the photodetection amount of said reflection light beam from said prism or said natural object that is prestored in said storage unit, and judges whether said object to be measured is the selected object to be measured based on the result of the comparison, and said display unit displays the result of said judgment by said control arithmetic unit.

2. (Previously presented) A distance measuring system according to claim 1, wherein said light amount adjuster comprises a density filter for adjusting said photodetection amount of said reflection light beam from said object to be measured, said storage unit prestores an adjusting position of said density filter according to the distance to the prism and to the natural object, and said object to be measured is judged based on the adjusting position of said density filter.

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3. (Canceled)

4. (Previously presented) A distance measuring system according to claim [3]9, wherein said reference data relating to the reflection of said object to be measured contains change of said photodetection amount due to weather conditions as a tolerance value.

5. (Canceled)

6. (Previously presented) A distance measuring system according to claim [5]10, wherein there are provided at least a prism measurement mode and a non-prism measurement mode, and when said prism mode is selected, said distance is displayed on said display unit only when said object to be measured is judged as a prism, and a warning that collimation in not performed is displayed on said display unit when said object to be measured is not judged as a prism.

7. (Previously presented) A distance measuring system according to claim [5]10, wherein photodetection sensitivity can be automatically changed over according to said photodetection amount of said reflection light beam from said object to be measured, the light amount is adjusted by the light amount adjuster, it is judged whether said object to be measured is the selected object to be measured according to said photodetection amount, and the result of the judgment is displayed on said display unit.

8. (canceled)

9. (New) A distance measuring system according to claim 1, wherein data is obtained by associating the photodetection amount of said photodetection unit before the light amount adjustment with the measurement distance, and the data is stored as reference data for judging said object to be measured.

10. (New) A distance measuring system according to claim 1, wherein said mode changing switch selects a prism mode for using said prism as said object to be measured and a non-prism mode

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for using said natural object as said object to be measured based on the result of judgment of said display unit.